ISSN 0228-4111

NEWSLETTER OF THE LONDON CHAPTER,
ONTARIO ARCHAEOLOGICAL SOCIETY
55 Centre St., London, Ontario N6J 1T4
(519) 675-7742; Fax: 675-7777

November/December 1998 98-7/8

The March 11th meeting is Members Night!!!. The four speakers will be:

- **Mike Spence**, on Mexican Archaeology, most likely his recent adventures at Teotihuacan;
- **Jim Keron**, on Paleo and Woodland sites he has discovered in site survey southeast of London;
- **Shari Prowse**, on the Bluewater Bridge South Site and her faunal analysis thereof; and,
- **Chris Ellis** on The Paleo-Indian site near Parkhill, Ontario.

******

As always, our meeting will be held at 8 pm at the London Museum of Archaeology, 1600 Attawandaron Road, near the corner of Wonderland & Fanshawe Park Road, in the northwest part of the city.

ANNUAL RATES

Individual	$18.00
Student	$15.00
Institutional	$21.00
Subscriber	$20.00

Chapter Executive

EXECUTIVE REPORT

A vote will be called at the March 11th meeting to cancel May meetings. The May meeting consistently draws low attendance (we have had only four people show up for that meeting over the last three years!). As spring rolls in, archaeologists are either in the field or attending the CAA and other meetings, and students have left Western for the summer. How can we compete?

Chris Ellis will bring the receipt book to the March meeting so that people can renew their London Chapter memberships. Yes indeedy, renewal time is here!! So why not bring your checkbook and get it over with at the March meeting.

SOCIAL REPORT

Dr. Frances Stewart, SSHRC Post-Doctoral Fellow, London Museum of Archaeology and University of Western Ontario gave an informative and fascinating speech at the February meeting. Her talk covered the archaeology of the Canadian Maritime provinces from a faunal perspective. She focussed on better known sites in the region, such as the 2300 year old Augustine Mound site. The excavation carried out at the Augustine Mound site, located on a native reserve, is an example of good co-operation between the native community and archaeologists. Another key point of her talk was that the archaeology of the Canadian Maritimes is hampered by poor preservation and a lack of researchers. High tides are eroding sites and acidic soils are slowly destroying the faunal remains.

The speaker for the April 8th meeting will be Dr. John Triggs. He will talk about the archaeology of Dundurn Castle in Hamilton.

EDITORS' REPORT

Pete Timmins has stepped down as co-editor of KEWA. We thank him for his efforts over the past year. His position will be filled by Chris Ellis, who is desperate to know if there is anyone else out there that would like to help with KEWA!!!

We apologize for the lateness of recent issues of KEWA. To make up for these delays, this is a double issue, so now we are caught up to the end of 1998. We are actively looking for papers to fill upcoming issues.

The first article in this double issue is by Larry Drew, an avocational archaeologist from Kent County. His article offers a glimpse into the prehistory of an interior part of the St. Clair Clay Plains. The second article is by Chris Ellis. In this contribution, he presents the results of radiocarbon dates of a Late Archaic Small Points component of the Parkhill site.

THE ARCHAEOLOGICAL SURVEY OF AN INTERIOR PORTION OF THE ST. CLAIR CLAY PLAINS, KENT COUNTY, ONTARIO

by Larry Drew

INTRODUCTION

Interior clay plains are generally thought to have been relatively inhospitable environments for prehistoric groups. Yet the collection from my family's farm, situated in the interior of the St. Clair Clay Plains, suggests that these areas were used throughout much of Ontario's prehistory.

With the encouragement of Neal Ferris, Regional Archaeologist, I obtained a licence as an avocational archaeologist. For the past two years I have conducted controlled surface surveys and documented local collections in the townships of Raleigh and East Tilbury, Kent County (Figure 1). In this paper I will provide a summary of the findings recorded in my 1997 and 1998 licence reports. These report combine available information from local collections and new data collected from surface surveys conducted during the past two field seasons. This work demonstrates that information valuable to the understanding Ontario's prehistory can be obtained from thin lithic scatters. Further, a wealth of data is available from local sources and existing collections obtained through the involvement of avocational archaeologists.

BACKGROUND

As Figure 1 illustrates, the study area is an inland portion of the St. Clair Clay Plains, a rather featureless physiographic region of "till plains smoothed by shallow deposits of lacustrine clay" (Chapman and Putnam 1984:174). The soils of the area are predominately Brookston clay soils. The flat topography is intersected by small creeks with knolls and rises, often barely noticeable, immediately adjacent to their banks. The creeks flow northward, joining Jeannette's Creek, a tributary of the Thames River. The research area includes inland drainages of parts of Raleigh and Tilbury East Townships, Kent County. It is located approximately midway between the Thames River to the north and the high cliff banks of the Lake Erie shoreline to the south.

Records of historic vegetation documented at the time of Euro-Canadian settlement indicate that the area was within proximity of a convergence of several distinct environments. The area itself was a deciduous forest with many nut producing tree species. However, within several kilometres were a combination of a vast marsh land to the north, and marsh and/or prairie to the west and northwest.

Historic accounts document the nearby environments: "the land [Raleigh] falls away [north] into what, in early days, was a marshy plain contiguous to the [Thames] river" (Lauriston 1952:287).A survey map of circa 1825 shows this marsh land as covering the north portion of Raleigh north to the

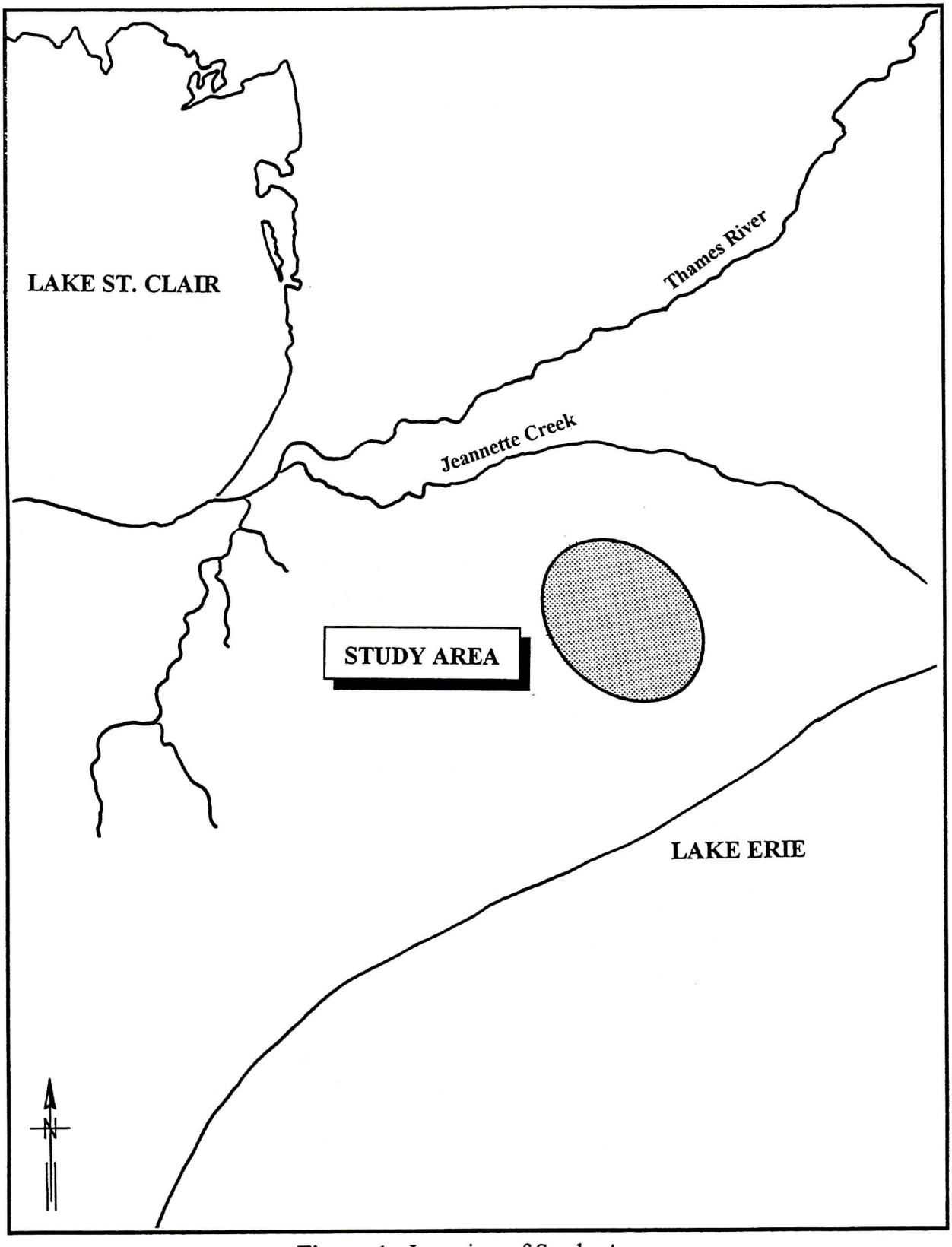

Figure 1. Location of Study Area

Thames River. This marsh was drained by Jeannette's Creek, crossing neighbouring Tilbury East Township prior to joining the Thames.

As stated above, to the west and northwest of the study area was also a marsh and/or tall grass prairie environment(s). Several kilometres to the northwest is the Hamlet of Prairie Siding whose name indicates open prairies were present. Lauriston (1952:299) describes this environment in Tilbury East at the time of historic settlement as follows:

> "in prehistoric times, the major part of the [Tilbury East] township represented an extension of the marshy flats of the St. Clair...the narrow alluvial bank of the Thames was only slightly above the level of Lake St Clair. From the Thames the land sloped southerly into a submerged treeless waste of some eight thousand acres, the home of the bull-frog, water fowl and aquatic plants. From Lake St. Clair, this drowned area known as the" Plains" extended east across Tilbury North and Tilbury East and several miles into Raleigh".

Lauriston (1952:299) also adds that south of the "plains" were "primeval forests".

The 1861 Agricultural Census confirms the study area was wooded at the time of historic settlement. For example in 1861, some 30 years after initial settlement and the start of clearing activities, the Drew farm was still approximately 50% forested and the neighbouring farm was roughly 70% forested. Today the dominant non-planted tree species in local woodlots of this part of Raleigh Township include oak, ash, basswood, elm and hickory, as well as Carolinian species such as Honey Locust along the creek banks.

The 1861 census, which covered portions of Raleigh Township, included the Enumerator's confirmation that this area was "heavily lumbered with Elm, Ash, Maple and some Oak." This census also indicated that the area was "lowland but there is sufficient fall for the water to run off when the land is cleared and ditched".

Virtually the entire Township of Raleigh is drained by small creeks running northwards towards the Thames River. Only a relatively small strip of land is drained south through short deep gullies cut into the cliffs along the Lake Erie shoreline. Local history texts describe the poor drainage and seasonal wet-dry cycles of the survey area prior to the existence of the modern drainage and pumping systems:

> "...in spring with creeks and rivers overflowing, the land was unbroken swamp; by midsummer, it was parched so dry that water supply was a problem...[lack of] water...proved a handicap to early settlers in the central or Middle Road section [south portion]. In the wooded area to the north this trouble was not so pronounced: while along the Thames the marshy lowlands suffered from too much water, the spring freshets reaching far inland, and the water usually remaining a good part of the year" (Lauriston 1952:287-300).

The permanent stream courses likely followed approximately the same course prior to historic settlement as they do today. Yet the smaller seasonal streams and tributaries, areas of seasonal flooding and/or wetlands, creek gradient, depth and width, and the degree to which the creeks were pre-historically intermittent are not as evident due to modern drainage systems through-out the townships (including pumping systems in the north section).

While southern Ontario was a treeless environment following the retreat of glaciers, forest began to fill-in by 12,500 BP according to Karrow & Warner (1990). Initially the forest was spruce dominated, followed by jack/red pine by 10,000 BP. More open areas had poplar, birch and oak, while poorer drained soils had eastern white cedar, tamarack, and black spruce. By 9,000 BP white pine became dominant with deciduous species such as elm and ash entering lowland areas and by about 7,500 BP other deciduous species such as hickory, basswood, and walnut began to take hold. The general area likely included mature deciduous forests (and abundance of nut producing species) from as early as about 4,000 BP when the transition from mixed to deciduous forest was complete.

For much of the above period a prairie environment existed concurrently in the extreme southwest of the province. According to Wickett (1995) the prairie of southwestern Ontario

> "was formed approximately 8000 years ago when the temperatures of North America were slightly warmer than today. The warming trend was ideal for prairie species which are well suited to warm, seasonally dry climates. Grasslands expanded and the eastern tall grass prairie became established. Eventually, temperatures cooled and trees invaded the open prairie".

The decline in temperature was most pronounced from 8000-7000 BP, but has fallen only gradually since (Karrow et al. 1990). This suggests that during, and for a period following maximum temperatures, the study area may have been either closer to the prairie environment, in the transition zone of perhaps oak savannah with small prairie enclaves, or possibly had been over-taken by the prairie for a period of time. This localized forest development and progression would have been influenced over time due to changes in local climate and drainage - but the information in hand generally supports the theory that the study area was in the vicinity of the transition zone.

Kenyon (1997:13) confirms the existence of prairies (including small enclaves) and savannas on soils including poorly drained clays and adds:

> "prairies and savannas of Southern Ontario should contain few prehistoric sites, but in contrast the woodlands immediately surrounding these prairie enclaves should be rich in archaeological remains. This model is based on two premises: 1) the scarcity of wood inhibits settlement within prairies; 2) the abundant game of the prairie-forest edge favours settlement" (Kenyon 1997: 26-27).

The transition zone, or ecotone, where two distinct plant communities overlap, provides for the most abundant and varied wild-life communities, and thus greater potential food resources. According to

Benyus (1989:173-174)

> "of the nearly 400 species of birds, mammals, amphibians, and reptiles found in the northwood regions, nearly half are closely linked to the field-forest edge ecotone! Here animals have access to a greater variety of food and cover than would be found in either community alone, and they benefit from the structural diversity offered by a combination of the two communities".

One historic account of the area provides an example of this edge effect near the research area just prior to historic settlement. Littlehales (Scadding 1889:10) observed in 1793 that just to the southwest of present day Chatham "a range of spacious meadow - Elk are continually seen upon them."

The creeks which transect the clay plains, while small, cannot be overlooked as adding to the available food resources. In addition to the resident aquatic species and attraction for game and fowl species, spawning pike and mullet (suckers) are common during the early spring, and in relatively high numbers in historic times. My father recalled that as a young boy (circa 1930) the taking of spawning fish by spear or funnel trap was common - with upwards of 80 pike taken by himself in a single day during peak spawn.

ARCHEOLOGICAL SURVEY

Beginning in 1997 a broad representation of artifacts by lot and concession was documented for four existing local collections. Information of specific or general location was recorded based on notes kept by the individuals, where available, and by interviewing family members and local residents with knowledge of the artifacts. Only those artifacts known to have originated from the study area were mapped and recorded.

This information alone indicated a concentration of artifacts on various small knolls or rises adjacent to the creeks. It was also revealed that these sites were all located on, or adjacent to, farms where there is a natural convergence of water ways such as the close approach of two creeks or the forking of the creek.

All other artifacts were recorded as isolated find spots. Initial distributional analysis reveals that 33% of isolated find spots were located approximately 200 metres or more away from the creek banks.

Armed with the above information, controlled surface collections of accessible ploughed fields were carried out during the 1997 and 1998 field seasons. Survey was done at 10 metre intervals both along the creek and in the field interiors. The intervals were reduced to 5 metres for known sites, in the immediate vicinity of known isolated find spots, and whenever a new artifact was collected. While some larger chert pieces were collected to assist in defining site locations and dimensions - most chert pieces, especially small flakes, were noted but not collected unless they appeared worked or utilized.

This approach often resulted in the majority of the area adjacent to the creek banks being covered at five metre intervals which may skew the number of artifacts and find spots in favour of higher numbers in these areas.

In all, nine sites within Borden Block AbHn were documented, along with 57 isolated find spots. Most sites were relatively small and diffuse scatters of artifacts - in some cases only really taking form after two or more site visits or based on information from local collections in which three or more artifacts may have been found on the same knoll or rise over a number of years.

Diagnostic artifacts were tentatively identified with cultural affiliations and periods based on artifact typology. Once artifacts were catalogued and tentatively typed, they were reviewed with Mr. Neal Ferris, Regional Archaeologist. Given my experience level and the limitations of artifact typology this was necessary in order to improve on the preliminary diagnostic interpretations.

In future field seasons, additional leads will be investigated and, with the permission of local residents, the survey area will be eventually extended to neighbouring farms - not only north and south along the same creeks but also to other creeks intersecting the townships further to the east and west. Leads on local collections continue to be a valuable source of information. During 1998 a local collection from the vicinity was brought to my attention and provided distributional information from deeper in the interior of Raleigh Township where headwaters of separate creeks converge.

ANALYSIS

Table 1 provides a summary of those diagnostic artifacts tentatively typed from the research area. As no more than three typed artifacts are concentrated on any single site, the figures can be said to indicate affiliations which are broadly represented within the area. All time periods, from Paleo through to Late Woodland are represented by diagnostic artifacts from the survey area indicating that these inland areas were used by people throughout Ontario's prehistory. A steady increase in use of the area from Paleo through to Early Woodland periods, with a marked decline in usage during the Middle and Late Woodland periods, is suggested.

There appears to be an increased use of these interior plains from Paleo through Early Woodland periods even after considering increases in band and population sizes over time. The area appears to be most heavily used during the Middle Archaic through Early Woodland periods which corresponds roughly to the transition in much of Southern Ontario from a mixed-deciduous to deciduous forest around 4000 BP - and potential increase in food resources from nut producing species. The apparent "steady" use of the area throughout this long period of Ontario's prehistory may be indicative of a continuum of subsistence and habitation patterns spanning the Archaic through Early Woodland.

The apparent decline in diagnostic artifacts from the Middle to Late Woodland groups would be even more pronounced if one considers the population increases during this time. This suggests that later Woodland groups made less use of the interior clay plains and may be indicative of a change in

subsistence and habitation strategies.

Table 1. Frequency of Diagnostic Artifacts by Period

PERIOD	TYPED ARTIFACTS	
	f	%
Paleo-Indian 11,500 BP - 10,000 BP	1-2	3-5%
Early Archaic 10,000 BP - 8,000 BP	4-5	10-13%
Middle Archaic 8,000 BP - 4,500 BP	9	22-24%
Late Archaic 4,500 BP - 2,800 BP	8-9	20-22%
Early Woodland 2,800 BP - 2,000 BP	8-9	20-22%
Middle Woodland 2,000 BP - 1,200 BP	3	7-8%
Late Woodland 1,200 BP - 350 BP	4	10%
TOTAL	37-41	

Preliminary inferences are also emerging regarding the variation of land use in the study area from north to south. Table 2 provides a breakdown of diagnostic artifacts divided between northern, middle and southern concessions within the study area. Preliminary data suggest that as one travels deeper into the interior there is an increase in Early to Late Archaic artifacts, while Early Woodland artifacts appear to be represented evenly across the entire area. Deeper in the interior there is a marked decrease in Middle to Late Woodland sites.

A sample of diagnostic artifacts from the research area is illustrated in Figures 2 and 3. The Paleo period is tentatively represented by a heavily patinated biface (Figure 2a) which is triangular in form and has parallel flaking. The Early Archaic is represented by a complete Thebes point (Figure 2b) surface collected in 1998 (Drew 1998). A second broken point stem from the same field which resembles the Thebes point type is shown in Figure 2c. The Thebes point is distinguished by its large size, large flaring base, upward diagonal and deep square notching, characteristic bevelled edges, and

a rhomboidal cross-section. Bevelling is also reported under the Side-Notched Horizon (circa 10,000 to 9700 BP) and is "rarely reported in Ontario" (Ellis et al. 1990:71).

TABLE 2. Distribution of Artifacts by Period and Location

LOCATION	TIME PERIOD						
	Paleo-Indian	Early Archaic	Middle Archaic	Late Archaic	Early Woodland	Middle Woodland	Late Woodland
Northern Concessions	0	1	2	2	3**	3	3
Middle Concessions*	1-2	3-4	3	5-6	3-4	0	1
Southern Concessions	0	0	4	1	2-3	0	0

* includes IFS from adjacent section of Tilbury East Township

** includes a single undecorated neck sherd, the only piece of pottery recorded to date from the research area

Two other Early Archaic artifacts are shown from the study area: a bifurcated base point (Figure 3a) of Kettle Point chert, similar to the LeCroy point type; and a side-notched point of unknown type (Figure 3b). Both basal tangs on the latter specimen appear to have been broken off, and the artifact appears heavily patinated. It resembles an as yet un-typed Early Archaic side-notched form of Southern Ontario reported by Ellis et al. (1990:71-73 - Figure 4.4).

Examples tentatively assigned to the Middle Archaic include one resembling the Stanly/Neville point type (Figure 3, c) and possibly a broad and heavily patinated side-notched point (Figure 3d). Examples from the Late Archaic may include a heavily re-worked stem (Figure 2d) resembling broad point types of this period, such as the Genessee point; and a small point (Figure 2e) resembling the Innes and/or Ace-of-Spades types. Other artifacts from the study area (not shown) included a Hind-like point and a polished slate tubular pipe (Drew 1997). While this slate tube or pipe is similar in form to the slate tubes illustrated by Ellis et al. (1991: 19 Figure 14 - A) which are assigned an Early Archaic affiliation - they are generally assigned to the Late Archaic or Early Woodland. The slate tube and Hind-like point may be associated with the Glacial Kame complex (circa 3000 to 2800 BP) - apparently associated with the last Terminal Archaic occupation in southern Ontario based on mortuary sites (Ellis et al. 1990: 115).

The Early Woodland period appears to be the most broadly represented by diagnostic artifacts from within the research area to date. The Early Woodland Middlesex complex is known almost exclusively from burial sites with indications of influences from, or interaction with, the Adena culture of southern Ohio - circa 500-200 BC (Spence et al. 1990: 138). Diagnostic artifacts of the Middlesex complex may include the blocked-end tube (described above) and distinctive stemmed point types such as the two Adena-like points (Figure 3e and 3f).

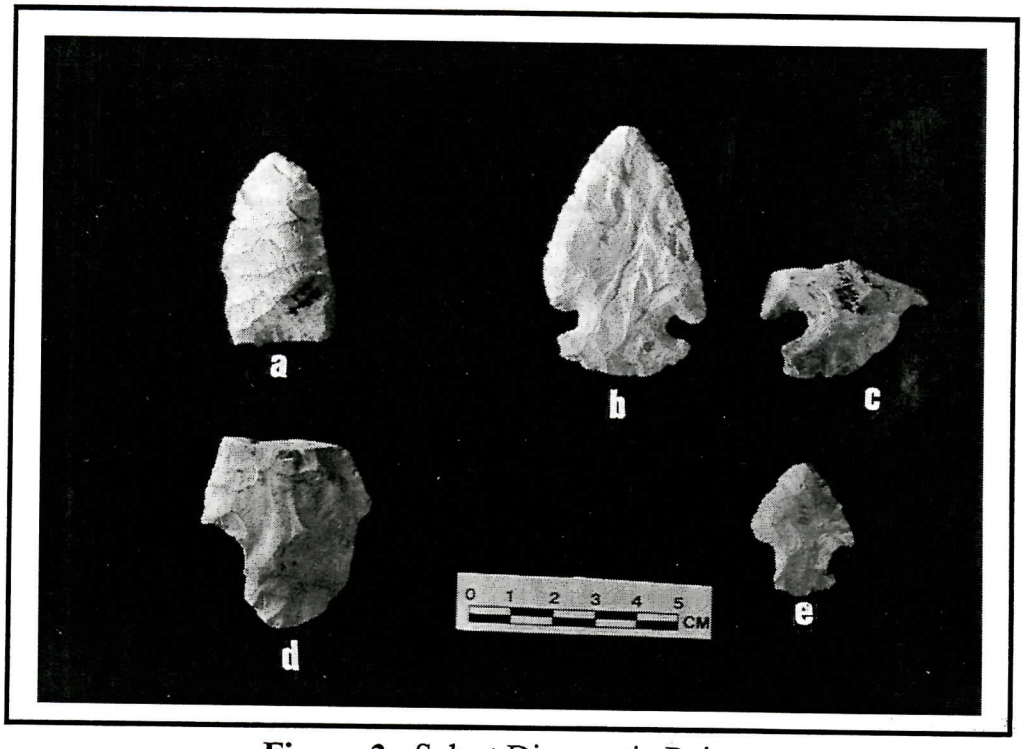

Figure 2. Select Diagnostic Points

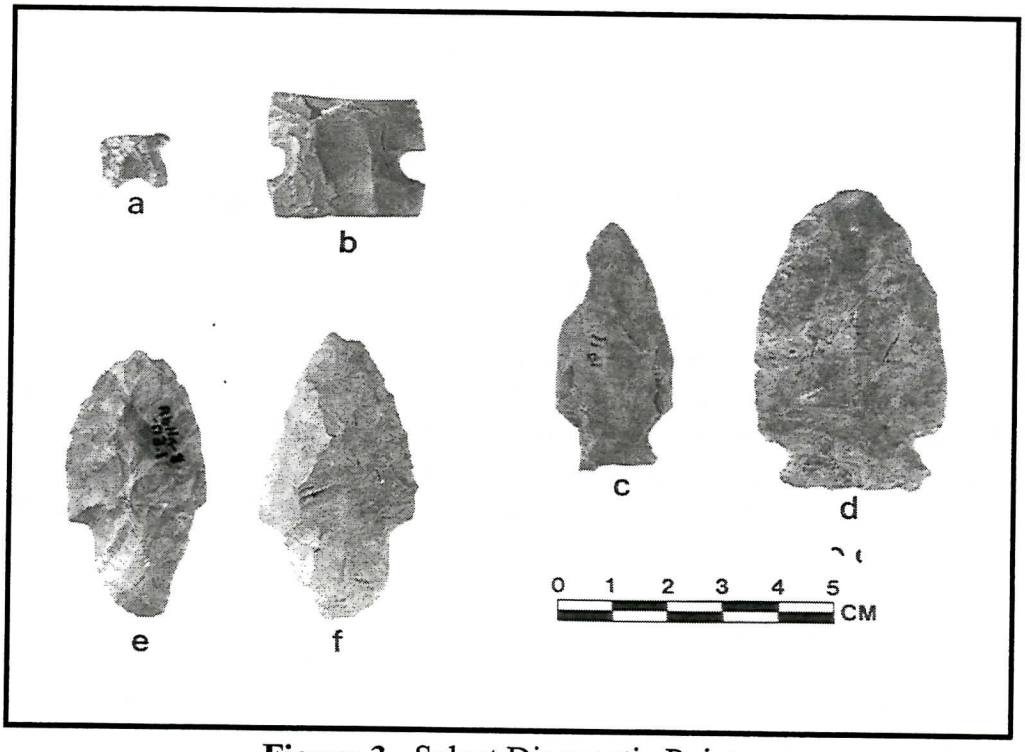

Figure 3. Select Diagnostic Points

The Early Woodland Meadowood complex is characterized in part by a variety of gorget/pendant forms and distinctive pop-eyed birdstones (Spence et al. 1990: 125). Two slate pendants/preforms (Figure 4b and 4c) and a pop-eyed birdstone are documented from the research area (Drew 1997). The pentagonal slate piece (Figure 4c) - possibly a preform - could represent a large trapezoidal gorget type of the Meadowood complex.

A wide range of tools have been recovered from the research area including many examples of knifes, scrapers, axes, adzes, gravers, bladlets and drills. These artifacts are often similar across a number of complexes and are therefore not generally considered diagnostic. However, with a relatively high concentration of Middle Archaic through to Early woodland points, the various non-diagnostic tools collected from this same area may be assumed to be distributed and represented in similar proportions. The number and type of tools found in the area (Table 3) may eventually provide clues as to the use of these inland areas.

TABLE 3. Relative Number of Artifacts by Tool Class

Artifact Description	**Artifact Totals**	
	f	%
Points	40	45
bifaces & knifes	18	20
axe, adze and celt	12	13
end scrapers and gravers	8	9
worked slate (tube, birdstone, gorgets etc)	5	6
drills and bladlet	3	3
hammer and abrading stones	3	3
Total	89	100

The tool class frequencies may be skewed in favour of points and axes due to the relative ease by which they may be recognized and thus more prominently represented in local collections. The above is also not a complete picture of any tool kit as it is limited to surface collections. Wood, bone and antler tools would not have survived in the plough zone, if at all. However, assuming an individual would be responsible for more points in a lifetime than axes, the above indicate a fairly wide range of tools utilized in the area - and is potentially valuable data when comparing tool kits from areas with known uses or seasonal activities. Examples from the broad range of tools recovered from the research area are included in Figures 4 and 5.

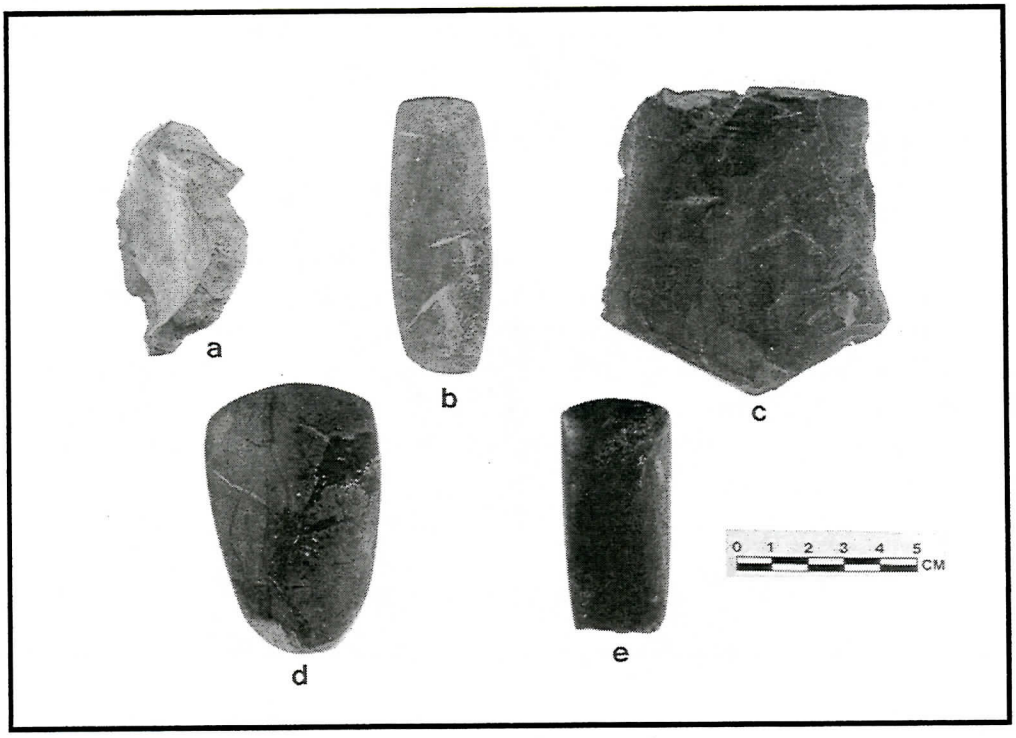

Figure 4. Select Tools

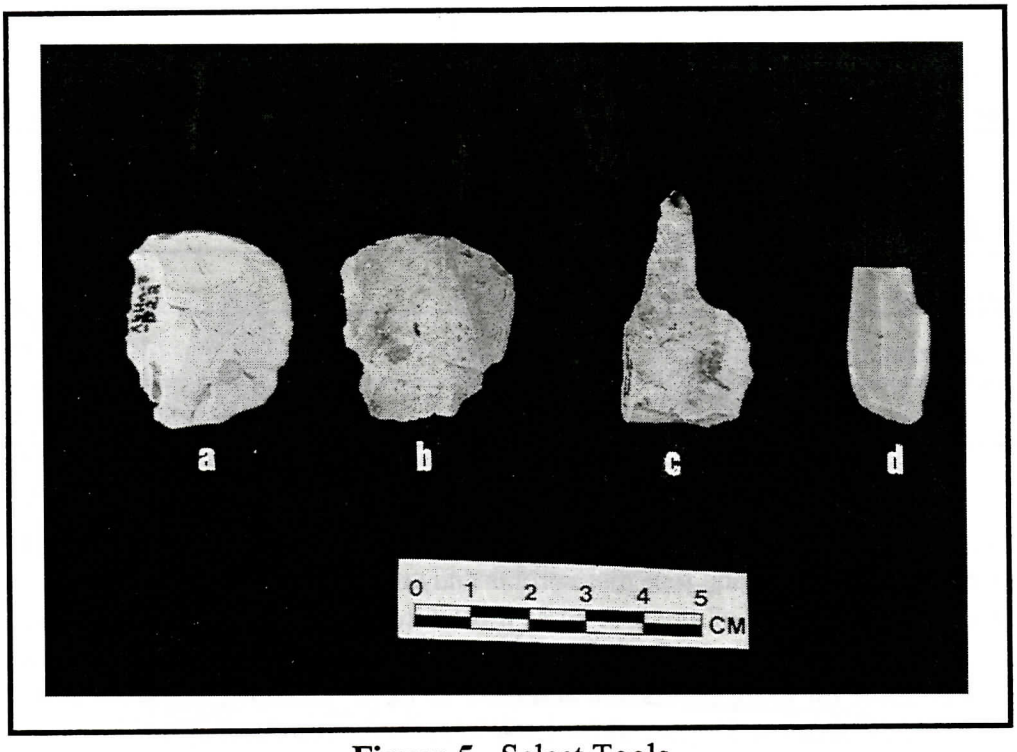

Figure 5. Select Tools

Exotic cherts represented in the research area include Ohio chert types such as Upper Mercer chert, Flint Ridge chalcedony, and Pipe Creek chert. While Ohio flint types were imported during both Early Archaic and Early Woodland periods, the Middle Woodland Couture complex, in extreme southwestern Ontario, is known to have frequently imported lithic material from Ohio. Synders points are diagnostic of this Middle Woodland complex (Spence et al. 1990:144). While a single Snyders-like point (not shown) has been recovered from the research area (Drew 1997), a bladlet of Flint Ridge chalcedony (Figure 5d) is also believed to be a distinctive tool form of the Middle Woodland (Ferris, personal communication).

Other tool examples shown include an adze and axe (Figure 4d and 4e) which show an unusually high degree of polishing and may also be of exotic materials. The adze (Figure 4d) is made from what appears to be a volcanic rock - green in colour with black intrusions/banding. The axe is made of a finely grained black-coloured igneous rock. Two examples of end scrapers from the research area (Figure 5a and 5b) and a drill (Figure 5c) were each surface collected in 1998 from the research area.

DISCUSSION

Clay plains make up a large portion of southwestern Ontario and according to Murphy and Ferris (1990:123) were relatively inhospitable to Late Woodland groups as they remained wet much of the year and offered limited choice of vegetation in the undergrowth of the ash and elm canopy. While this study area's environment and drainage (at least at time of historic settlement) is consistent with this claim regarding later Woodland groups, there appears to have been other favourable factors during earlier periods when the interior clay plain appears to have been more widely used.

All sites documented in the area to date are located on small knolls or rises immediately adjacent to the creeks. This is consistent with the creeks acting as transportation routes, and the knolls and rises acting as favourable camp or occupation sites.

Sites may also exist other than immediately adjacent to the creeks. A significant percentage of isolated find spots (>33%) are located in the interior, away from the creek banks. These data indicated that the people not only travelled inland along the creeks, but were also active off of these "routes" - or they may simply indicate that the area was used for seasonal camps - with more time available for repeated trips away from the transportation routes for such activities such as nut procurement.

It is generally accepted that the interior was used for fall and/or winter camps which presumably focussed on deer hunting and nut procurement (Ellis et al. 1990: 114), with the Archaic and Early Woodland groups travelling in small mobile bands to exploit seasonally available food resources. Areas containing oak (acorns), and other nut-producing species, would have been especially attractive.

While site types have not been determined in the study area, their relative small size indicates they were probably domestic single encampments or seasonal camps for food procurement and processing. The study area appears relatively close to the ecotone between open and forested environments, which together with the presence of acorns would attract deer. Nut producing species such as hickory were also present. Further, the seasonally wet environment would have been less of a problem during the fall and winter seasons. All of these factors would support a fall-winter food procurement strategy.

Yet, with the information at hand, one cannot rule out spring-summer food procurement strategies. While it is generally believed that spring camps were located at inlets and mouths of rivers to exploit spawning fish, it is possible that the abundance of fish in these creeks could have been sufficient to attract small bands of earlier Archaic groups. Indeed, procurement strategies may have been made easier by the relatively narrow channels of these smaller creeks. Further, the marshy area to the north may have been expanded by the spring flooding, and as the spring freshets/overflow moved further inland, may have placed the study area in an "ideal" location to harvest spawning fish.

The sites discovered by this study are located in proximity to diverse ecotones (marsh and/or prairie edges next to deciduous forests) that contained abundant wildlife. In addition, they are located near natural convergences of water ways. This locational data can be used to support either a cold season or a warm season use of the area. The small size and diffuse nature of these sites suggests occupations by small nomadic groups.

Further investigation and analysis of the distribution of artifacts by tool class and distribution of artifact locations (nearby and away from the creeks and/or transportation routes) may eventually provide clues as to the seasonal use of the study area. The presence of a full range of tools from the area suggests a wide range of activities being carried on and suggests some sort of seasonal use rather than a number of single encampments. Murphy (1997: 16) indicates most inland Archaic sites consistently produce a relatively limited range of tools dominated by projectile points with winter-based hunting believed to be the primary activity on interior sites. The relative wide range of tools and presence of value goods (such as birdstones and exotic materials) may indicate that the interior and inland drainages were of a more varied importance to prehistoric groups than originally thought.

SUMMARY

Preliminary information suggests the use of interior clay plains steadily increased from Paleo through Middle Archaic periods. Heaviest use of the area appears to have been relatively steady from Middle Archaic through Early Woodland, and possibly indicates a continuum of subsistence and habitation patterns through these periods. Various complexes including the Glacial Kame, Adena, Meadowood, Middlesex and Couture are potentially represented based on tentative artifact typologies.

A marked decline in use, especially deeper in the interior, appears to have occurred during Middle and Late Woodland periods - indicating a change in subsistence and habitation patterns.

While site types have not been determined, they probably represent either single encampments or seasonal camps. A literature review suggests that the use of these interior clay plains were likely fall-winter season camps for deer and nut procurement with lithic scatters dominated by points. Yet the area has produced a very broad tool kit, and some valuable goods, indicating perhaps more took place in the interior than is currently understood.

As the survey area is revisited in future field seasons, and the survey hopefully extended to other inland drainage systems of clay plains, the distributional analysis can provide additional valuable information and reference data for interior locations. For example, if the area was popular due to its proximity to varying ecotones, there may be a noticeable difference in frequency and distribution of artifacts along drainages closer to, or further from, the transition zone. Also, the research area can provide valuable information on spatial analysis, temporal and cultural use of the interior, and additional clues from artifact frequency and distribution by tool class.

The cultural and temporal affiliations of the Archaic and Early Woodland continue to be the least understood, especially in terms of interior locations which are the least studied. Ongoing research may provide domestic information on groups largely known only from mortuary sites. At the very least, further research will help advance our understanding of spatial and distributional patterns for these lesser known periods.

PERSONAL NOTE & ACKNOWLEDGEMENTS

I have been intrigued by artifacts since I was a child with a box of them from the family farm. Later this interest was fostered as I joined the OAS and found information was available on "dating" them. However, a breakthrough came when friends and I attended "Archaeology Days" held near London - Harri Matilla viewed and discussed our artifacts. Harri must have happened to notice that my interest extended beyond the artifacts themselves and referred me to Neal Ferris, Regional Archaeologist. The transformation from "artifacts" to "archaeology" was now possible. Neal encouraged me to apply to the Ministry as an avocational and to document the local collections - and to perform controlled surface collections in the area. To this privilege I gratefully acknowledge local residents and landowners, and those who willingly shared their local knowledge and family collections - Neil Wellwood, Patrick Drew and Paul Hoy.

While completing my first licence report for the 1997 field season it became clear that the seemingly "little" information I had to share was of value. Thanks again to Neal's encouragement, this article was pursued to top-off another great experience during the 1998 field season.

I need also to acknowledge Paul Lennox. The following quote (Lennox 1997:15, 21) is an example from the literature which provided a great deal of motivation when questioned on the potential value of information available from the study area:

"if we do not look for these small, lower density sites, we will "write-off", simply by design, large segments of Ontario's prehistory....more often than not, missed by standard field techniques. Small low density sites likely account for about 90% of Ontario's prehistory according to the time range represented...(discounting) plow disturbed, encampment, lithic scatter and so on, noting their small size, their scarcity of diagnostic artifacts and lack of certain portions of their assemblages due to preservation. But these are an important part of the lengthy record, if only because they are all that remains of a major portions of it. There are a range of them. Those that appear least significant often produce the most valuable information."

REFERENCES CITED

Benyus, J. M.

1989 ***Northwoods Wildlife, A Watcher's Guide to Habitats.*** North Central Forest Experiment Station, USDA Forest Service - St. Paul, Minnesota Northwood Press Inc, Minocqua, WI.

Canada

1861 Agricultural Census (c 1861), Enumeration District No. 3 of Raleigh, County of Kent. Archives of Ontario NARG 31 A2, Microfilm C1039-1040.Toronto, Ontario.

Chapman, L. J. and D. F. Putnam

1984 ***The Physiography of Southern Ontario***. Ontario Geological Survey Special Volume 2. Ministry of Natural Resources, Government of Ontario.

Drew, L. M.

1997 Archaeological Survey of Inland Drainages in Parts of Raleigh Township, Kent County, Annual Report under Licence Number 97-002. Licence Report on file, Archaeological Licence Office, Ministry of Culture, Tourism and Recreation, Toronto, Ontario.

1998 Archaeological Survey of Interior Clay Plains in Southern Portions of Kent County, South-Western Ontario. Annual Report under Licence Number 98-002." Licence Report on file, Archaeological Licence Office, Ministry of Culture, Tourism and Recreation. Toronto, Ontario.

Ellis, C. J., W. A. Fox, S. Wortner

1991 Nettling: An Overview of an Early Archaic "Kirk Corner-Notched Cluster" Site in Southwestern Ontario. ***Canadian Journal of Archaeology*** Vol. 15, 1991.

Ellis, C. J., I. T . Kenyon and M. W. Spence
1990 The Archaic. In ***The Archaeology of Southern Ontario to A.D. 1650***, edited by C. J. Ellis and N. Ferris, pp 65-124. Occasional Publications of the London Chapter, The Ontario Archaeological Society 5. London, Ontario.

Karrow P. F., and B. G. Warner
1990 The Geological and Biological Environment for Human Occupation in Southern Ontario. In ***The Archaeology of Southern Ontario to A.D. 1650***, edited by C.J. Ellis and N. Ferris, pp 5-35. Occasional Publications of the London Chapter, The Ontario Archaeological Society 5. London, Ontario.

Kenyon, I. T.
1997 Objibway Prairie Reserve Archaeological Survey. ***KEWA*** 97-3 & 4, Newsletter of the London Chapter, Ontario Archaeological Society London, Ontario

Lauriston, V. (Editor)
1952 Romantic Kent, The Story of a County 1626-1952. Chamberlain Press, Chatham, Ontario.

Lennox, P.A.
1997 Small Sites Archaeology: Bigger is Better? or Site Significance is not Always a Function of Baseline Length. ***Home Is Where The Hearth Is: The Contribution of Small Sites to an Understanding of Ontario's Past***. Edited by Jean-Luc Pilon and Rachel Perkins. The Ottawa Chapter of the Ontario Archaeological Society.

Murphy, C.
1997 A Headwater Camp on Hunsburger Creek", ***KEWA*** 97-6, Newsletter of the London Chapter, Ontario Archaeological Society, London, Ontario

Murphy, C., and N. Ferris
1990 The Late Woodland Western Basin Tradition of Southwestern Ontario. In ***The Archaeology of Southern Ontario to A.D. 1650***, edited by C.J. Ellis and N. Ferris, pp 189-278, Occasional Publications of the London Chapter, The Ontario Archaeological Society 5. London, Ontario.

Public Archives of Ontario
1825 Survey of Raleigh Township, Map No. 23 (circa 1825). Archives of Ontario, Ref: C-36 RS1-100. Toronto, Ontario.

Scalding, H. (Editor)
1889 ***Journal Written by Edward Baker Littlehales (Major of Brigade, etc) On a Exploratory Tour Partly in Sleighs but Chiefly on Foot, from Navy Hall, Niagara to Detroit, Made in the Months of February and March, A.D. 1793, by his***

Excellency Lieut. - Gov, Simcoe. Copp, Clark. Toronto, Ontario.

Spence, M. W., R. H. Pihl, and C. R. Murphy,
1990 Cultural Complexes of the Early and Middle Woodland Periods. In ***The Archaeology of Southern Ontario to A.D. 1650***, edited by C.J. Ellis and N. Ferris, pp 125-169. Occasional Publications of the London Chapter, The Ontario Archaeological Society 5. London, Ontario.

Wickett, R. G.,
1995 ***Ojibway Tallgrass Prairie***, Corporation of the City of Windsor, Windsor, Ontario.

The Pits (Part III) or Evidence from the Parkhill Site Pertaining to the Age of Late Archaic "Small Points"

by Chris Ellis

INTRODUCTION

I have previously been involved in the reporting in ***KEWA*** of two radiocarbon dated cultural features containing diagnostic Late Archaic and Early Woodland projectile points from the Thedford II and Parkhill sites (Ellis 1994a; Ellis et al. 1990a). These represent features fortuitously encountered during work at those sites designed to investigate their Paleo-Indian components. I report here on a third such cultural feature, as well as a non-cultural one, also encountered during the 1970's fieldwork at the Parkhill site carried out by the late William B. Roosa, both of which have a bearing on the age of the Late Archaic Small Point component at the site.

The features of concern here were located in the southern excavation block in Area D at the site (see Figure 1; Deller and Ellis 1992a; Ellis 1994b; Roosa and Deller 1982). This very extensive site area has evidence of occupations extending from Paleo-Indian to Late Woodland. The Late Archaic occupations included both Broad Point (Genesee points and pentagonal preforms; see Fisher 1987) and Small Point (Crawford Knoll type points; see Figure 2b-e) although only the latter diagnostics were encountered in the specific area excavated. Moreover, the Small Point diagnostics were recovered in a non-cultural (Figure 2e) and a cultural (Figure 2c) feature at the area which we can date by means of radiocarbon.

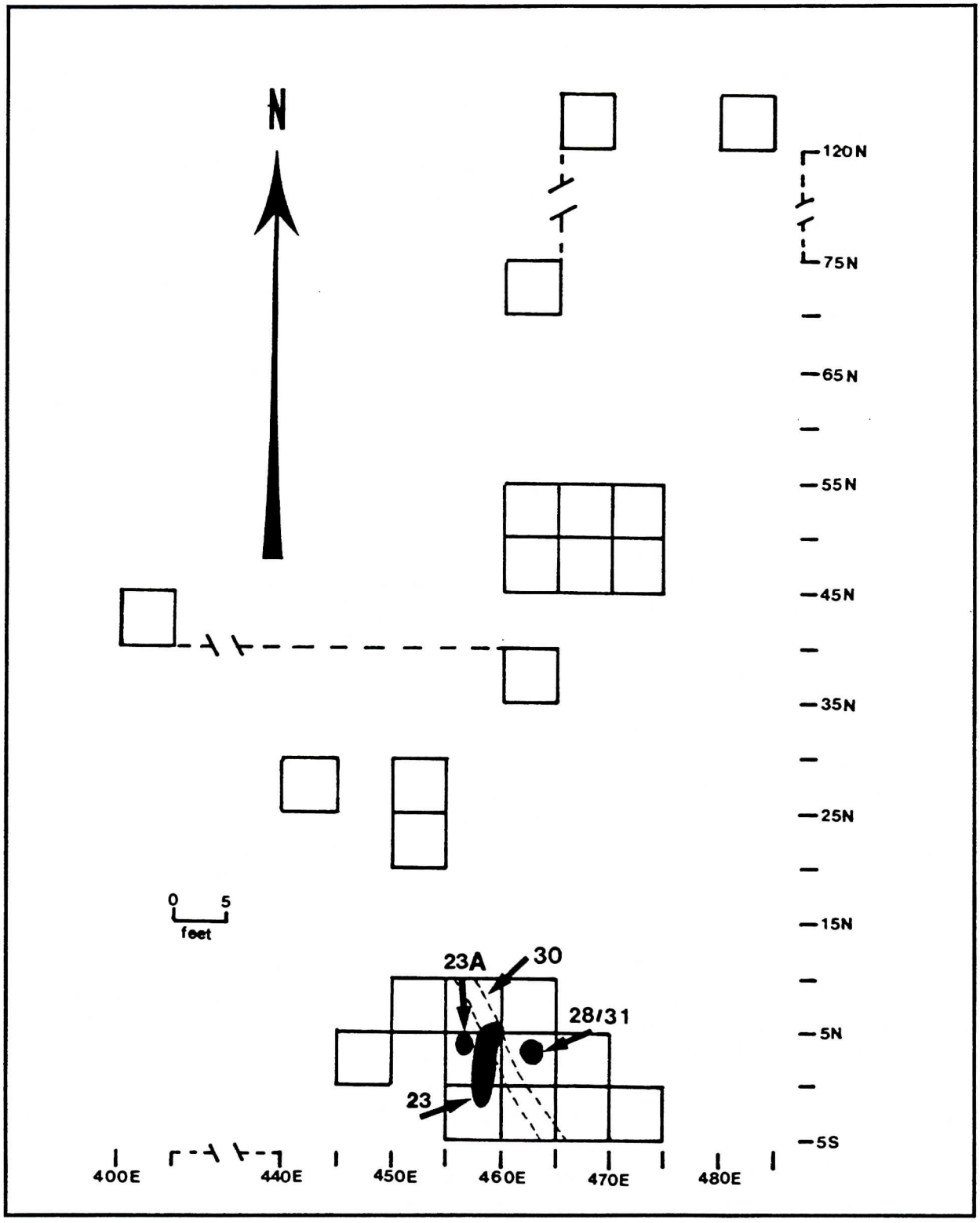

Figure 1. Location of cultural and natural features in southern excavation block, Area D, Parkhill site

FEATURE #30

The non-cultural feature, called Feature #30 (Figure 1), provides a limiting or minimum date for the Crawford Knoll occupation at the site. Feature #30 extended down to a maximum depth of 0.8 ft. into the subsoil below the ploughzone. It was an extensive linear, ca. two foot wide, feature which trended from the southeast to northwest across the excavated area and represented an old eroded drainage channel which probably was formed with the drainage of the high water Nipissing Phase in the Lake Huron basin (see Larsen 1984) at ca. 4500 B.P. Over time, the channel was gradually filled by deposits and cultural material eroded from surrounding areas or perhaps in the cases of post ca. 4500 B.P. cultural material, was actually discarded into the channel. The cultural material in Feature #30 included over 20 Paleo-Indian tools as well as a large amount of flaking debris, almost all of which is on the distinctive Fossil Hill Collingwood variant chert which is diagnostic of Paleo-Indian occupations in southwestern Ontario from London west. However, and of more interest to us, the channel fill also included, predominantly from higher levels, material representing later occupations at the site.

The post-Paleo-Indian material in the channel fill included much Kettle Point chert debris but of importance, there were two relatively diagnostic artifacts or fragments (Figure 2a, e). One is a tiny central fragment of the base of a very small corner notched point on Onondaga chert which had a basal width of only 11.9 mm (Figure 2e). It is quite clear given its size and morphology and its clear pre-Late Woodland context (see below) that this is from a Crawford Knoll type point. There are no other known point types with these two characteristics in such an age range. The second object is a small trianguloid biface on an unidentifiable chert (Figure 2a) which measures 44.9 long by 21.9 wide by 10.2 mm thick. This item has quite sinuous edges, lacks any fine edge retouch, and has remnants of prepared platforms (e.g. grinding) on its edge. These features clearly indicate it is an unfinished item and it was undoubtedly discarded because of errors in knapping, notably step or hinge terminations of lateral edge flake removals. Such abrupt terminations which precluded additional thinning, as well as the fact the item had a pronounced convex face which could not be thinned very easily, led to it being abandoned in manufacture. In overall size as well as outline shape, this item closely approximates the small preforms known from several sites with Small Point Late Archaic components such as those from Crawford Knoll itself (see Ellis et al. 1990b: Figure 4.25a-d).

Feature #30 is a natural (e.g. non-cultural) feature and no radiocarbon determinations were run on material from the channel fill. What is of note however, is that this channel has been cut down into by a subsequently dug cultural feature: the north end of a feature called #23 at the site which was reported previously (Ellis 1994a; see Figure 1). Feature #23 was clearly an Early Woodland Meadowood feature as it contained a Meadowood point base and it yielded two feasible radiocarbon determinations of 2980+/-105 B.P. (I-8867) and 2485+/-100 B.P. (I-8868) although the later date is favoured as a more accurate approximation of the feature's age (Ellis 1994a). In any event, the evidence from Feature #30 and the subsequent Feature #23 indicates the Small Point component at Area D is stratigraphically earlier and must be older than about 2500 to 3000 B.P.

FEATURE #28/31

The second feature of interest to this paper is a cultural one. It was located just five feet to the east of the Early Woodland Meadowood cultural feature (#23) reported previously. It was situated in the northeast corner of square O North/460 East. I have reported elsewhere that it extended down into the Feature # 30 channel as well (Ellis 1994a:4) but this was an error as it was clearly outside the northeast to east edge of the linear non-cultural Feature #30 (Figure 1).

Feature #28/31 was almost a perfect oval in plan at interface and had a diameter of about 1.5 ft. It extended down into the subsoil some 1.8 ft. and was a pit hearth surrounded by fire-reddened soil. The feature did include some Collingwood chert flaking debris and tools (including a fluted point base!) which must be associated with the Paleo-Indian occupation of the area and this material undoubtedly had been incorporated into the feature when it was dug by later site occupants. Other material from the feature which more directly relate to its actual use included, besides Kettle Point and Onondaga waste flakes, a single large sub-greywacke flake and the basal corner of a tiny corner notched point. This point fragment, on Onondaga chert, has fine serrations along the retained part of one fore-section edge (Figure 2d). Most of the feature soil samples had been processed in the 1970's to obtain material for radiocarbon dating and the organic material recovered was not identified. The remaining soil samples processed in the 1980's using a SMAP flotation device yielded only a small amount (0.14 gm) of unidentifiable wood charcoal (Carl Murphy, personal communication, 1985).

The Feature #28/31 artifactual contents were examined by me in the mid-1980's. At that time since the sub-greywacke was known to have been used by Broad Point peoples (e.g. Kenyon 1979, 1980a, 1980b), I assumed the feature related to that Late Archaic use (e.g. Deller et al. 1986:8; Ellis 1994a:4) even though no definitive Broad Point diagnostics were recovered from the southern excavation block area. Indeed, although use of sub-greywacke was most intense during the Broad Point Archaic, it was widely used by other groups including even Paleo-Indian (e.g. Deller and Ellis 1992b:87). I assumed at that time as well, given that most of the data on Late Archaic Small Point material had not been published, that corner-notched and serrated points were uniformly of Early Archaic age. Therefore, I assumed the point from Feature #28/31 was Early Archaic and that like the Paleo-Indian flaking debris in the feature fill, had become incorporated during construction of the feature. However, with the publication of data on Crawford Knoll-like points including serrated examples (e.g. Kenyon 1989; Lovis and Robertson 1989) and having had the opportunity to work directly with Early Archaic materials (e.g. Ellis et al. 1991), it is quite clear the notched and serrated point corner from Feature #28/31 is not Early Archaic. It is not as well made as Early Archaic forms and more importantly, is much too small. Although incomplete, the shallow (2.6 mm) and narrow (2.9 mm) notches and thickness (3.3 mm) for example, are smaller than any examples from well-known Early Archaic sites with large corner-notched point samples like Nettling, Ontario (minimum of 2.9, 3.1 and 4.1 mm respectively for Early Archaic examples at that site; see Ellis et al. 1991: Table 5). In addition, since maximum thickness occurs in the mid-line of the base on small points, the position of the point of maximum thickness on the base from Parkhill suggests the point had an overall width of less than ca. 18.0 mm. Such a width is clearly narrower than the Nettling Early Archaic examples

(all at that site are greater than 19.0 mm wide; Ellis et al. 1991: Table 5). Moreover, the estimate of width combined with the angle of the lateral edge and other attributes make it clear the Parkhill example would have been shorter than 20 mm long which is much too short to be an Early Archaic form (they are usually at least twice that long; mean of 40.67 mm ; range of 28.1 to 72.4 at Nettling). Finally, in terms of simply outline shape, it is clear this corner is identical to the outline of six definitive Crawford Knoll type points recovered from the surface of Area D at Parkhill (e.g. compare Figures 2b-c with 2d).

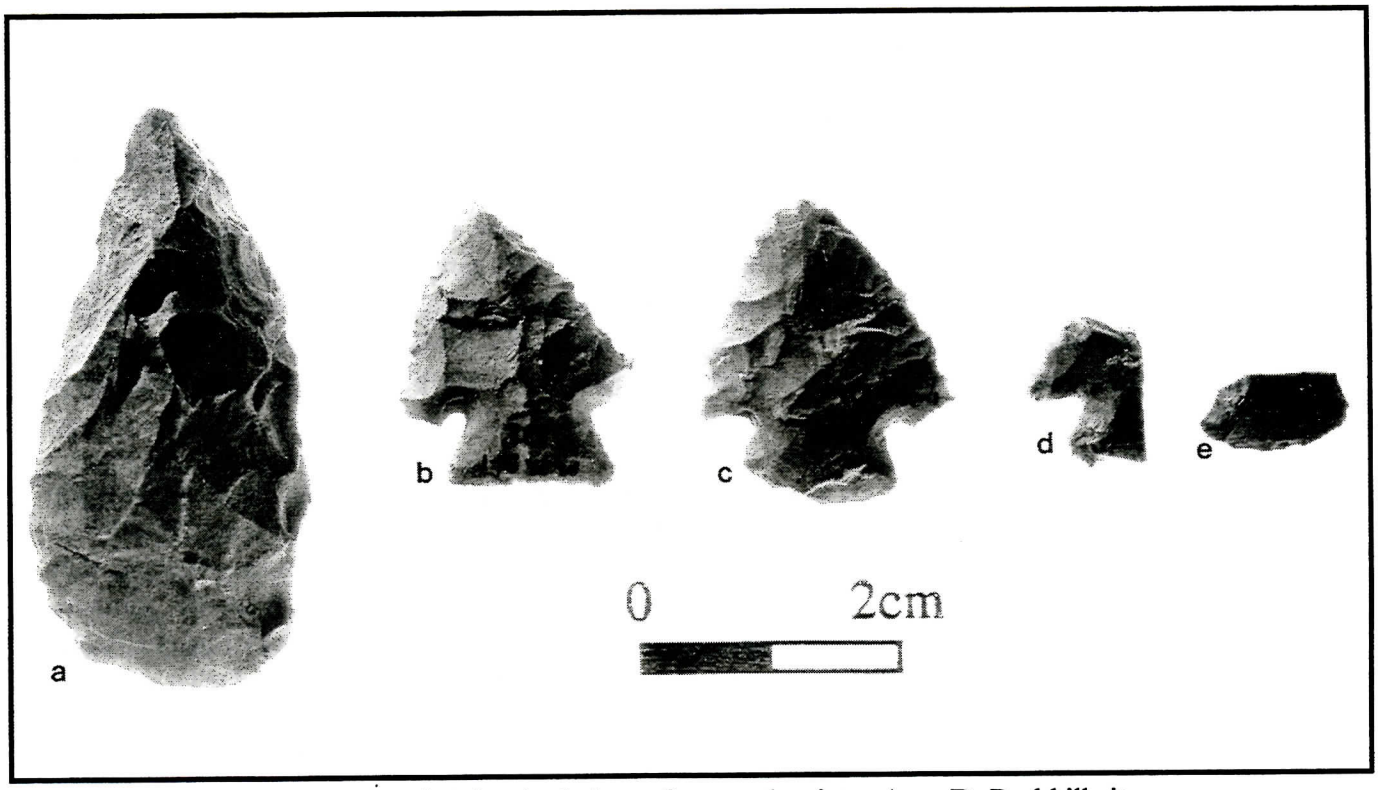

Figure 2. Small Point Archaic preform and points, Area D, Parkhill site.
a: preform, Feature #30; b-c: complete points, surface; d: point corner segment, Feature #28/31; e: point base, Feature #30.

Given these new considerations, Feature #28/31 is now known to contain a definite diagnostic of the Small Point complex and in particular, a Crawford Knoll type point so a previous guess of a Broad Point association, an association which has been questioned by others (e.g. Fisher 1997:5), is probably erroneous. The single radiocarbon date on the feature is 3400+/-210 B.P. (I-8866) which is virtually identical to the date from the Crawford Knoll site itself of 3480+/-120 B.P. Combined with the data from the non-cultural feature at Area D, they allow one to argue for a ca. 3500 to 3000 B.P. age of the Area D Parkhill site Small Point occupation.

ACKNOWLEDGMENTS

Excavations at the Parkhill site were funded by grants from the Canada Council to the late William B. Roosa. My analyses of the Parkhill data have been supported by a Post-Doctoral fellowship awarded by the Social Sciences and Humanities Research Council of Canada and have benefitted greatly from the advice of my colleagues and friends D. Brian Deller and the late Ian T. Kenyon. Stephen Harding did the artifact photograph, Pete MacLean assisted with processing the feature samples and Carl Murphy examined the charcoal from the features. Their assistance is much appreciated.

REFERENCES CITED

Deller, D. B. and C. J. Ellis

1992a The Early Paleo-Indian Parkhill Phase in Southwestern Ontario. ***Man in the Northeast*** 44:15-54.

1992b ***Thedford II: A Paleo-Indian Site in the Ausable River Watershed of Southwestern Ontario***. Memoirs of the Museum of Anthropology, University of Michigan, No. 24.

Deller, D. B., C. J. Ellis and I. T. Kenyon

1986 Archaeology of the Southeastern Huron Basin. In ***Studies in Southwestern Ontario Archaeology***, edited by William Fox. Occasional Publications of the London Chapter, Ontario Archaeological Society 1:3-12.

Ellis, C. J.

1994a The Pits (Part II): A Radiocarbon-Dated Early Woodland, Meadowood Phase Feature from the Parkhill Site. ***KEWA*** 94(5):2-7.

1994b Miniature Early Paleo-Indian Stone Artifacts from the Parkhill, Ontario, Site. ***North American Archaeologist*** 15:253-267.

Ellis, C. J., D. B. Deller, C. Murphy and C. Dodd

1990a The Pits Part I: A Radiocarbon-Dated "Small Point" Late Archaic Feature from the Thedford II Site. ***KEWA*** 90(7):8-12.

Ellis, C. J., I. T. Kenyon and M. Spence

1990b The Archaic. In ***The Archaeology of Southern Ontario to A.D. 1650***, edited by C. Ellis and N. Ferris, pp. 65-124. Occasional Publications, London Chapter, Ontario Archaeological Society, No. 5.

Ellis, C. J., S. Wortner and W. Fox

1991 Nettling: An Overview of an Early Archaic "Kirk Corner-Notched Cluster" Site in